

## NEW SPECIES OF DIONYSIA, KICKXIA AND ONOBRYCHIS FROM IRAN

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ABSTRACT. Three new species are described: *Dionysia lurorum* Wendelbo (Primulaceae) from SW Iran and *Kickxia chasmophytica* Wendelbo (Scrophulariaceae) and *Onobrychis rechingerorum* Wendelbo (Leguminosae) both from S Iran.

Work on material collected by staff members of the herbarium of the Botanical Institute of Iran, Tehran (TARI) has brought to light three new species which are described below.

### *Dionysia lurorum* Wendelbo, sp. nov. Fig. 1.

Sect. *Dionysia* subsect. *Caespitosae*

Laxe caespitosa. Residua rosularum foliorum secus ramos inter se 10-20 mm remota. *Surculi* juveniles remote, in parte superiore densius foliati. *Folia* petiolis inclusis usque ad 10 mm longa, obovata usque oblanceolata vel anguste elliptica, in petiolum brevem cuneato-attenuata, paucidentata, acuta, imprimis basin versus fasciculis lanato-farinosis albo-cinereis obsita; folia interna rosularum 2.5-3.5 × 2-2.5 mm, suborbicularia usque late elliptica vel obovata, subacuta, interdum parce denticulata, nervatura dense subreticulata in statu sicco utrinque elevata, minute glandulosa; folia exteriora marcescentia foliis surculorum ± similia. *Scapi* 3-10 mm longi, glandulosi. *Inflorescentia* e floribus 1-3 sessilibus composita. *Bractae* 3, inaequales, calycem circiter aequantes, late ovatae usque anguste lanceolatae, subintegrae usque grosse 1-3-dentatae, acutae, pagina superiore basin versus lanato-farinosae. *Calyx* 7-8 mm longus, tubulosus, usque ad basin fere fissus; segmenta 1.3-1.8 mm lata, lineari-lanceolata, subacuta, intus aliquantum lanato-farinosae. *Corolla* flava, extus pilis brevibus articulatis glanduliferis obsita; tubus florum brevistylorum c. 14 mm longus, ad insertionem staminum c. 3 mm infra faucem amplius; tubus florum longistylorum c. 16 mm longus, ad insertionem staminum c. 7 mm infra faucem amplius; corollae lobi c. 5 mm longi, 2.5-3 mm lati, elliptico-obovati, apice ± rotundati. *Antherae* c. 2 mm longae. *Stylus* florum brevistylorum c. 4 mm; stylus florum longistylorum c. 12 mm longus. *Capsula* 2.5 mm longa, late ovoidea. *Semina* numerosa.

Iran. Lorestan: 61 km on road from Aligodarz to Shoulabad, valley after the pass in E-exposed, partly wet limestone cliffs, 2400 m alt., 29 vi 1977, Runemark & Lazari (holo. GB; iso. E, TARI).

The new species has flat leaf margins, leafy bracts and a comparatively well developed scape and seems best accommodated in subsection *Caespitosae* of the section *Dionysia*. Several characters, however, differentiate it from the other species of that subsection, e.g. the presence of a woolly farina, the style of the long-styled flowers being included in the corolla tube, and the high number of seeds per capsule. The woolly farina,

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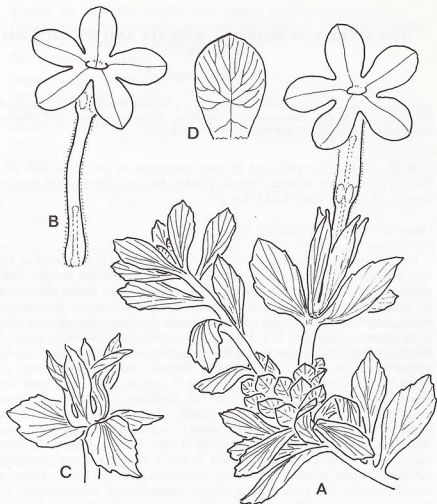


FIG. 1. *Dionysia lurorum* Wendelbo. A, branch with long-styled flower; B, corolla of short-styled flower; C, fruiting calyx with subtending bracts; D, inner leaf of rosette. All  $\times$  approx. 2.75.

which is quite well developed especially towards the base of the leaves and bracts, is also found in the species of the more primitive section *Anacamptophyllum* as well as in the mainly Afghan subsection *Tapetodes* of section *Dionysia*. A farina is characteristic of species which are regarded primitive, whereas it is frequently lost in more advanced species. A high number of seeds per capsule as found in *D. lurorum* is, with a few exceptions, typical of the section *Anacamptophyllum*, whilst the species of all other groups have a reduced number of seeds. According to Wendelbo (1961) there are several trends of reduction of ovules/seeds per ovary/capsule in the genus *Dionysia* and a high number is considered a primitive feature. Thus in its farina and seed number *D. lurorum* shows primitive characters which leads to the conclusion that it should be considered the most primitive species of the subsection *Caespitosae*. Among

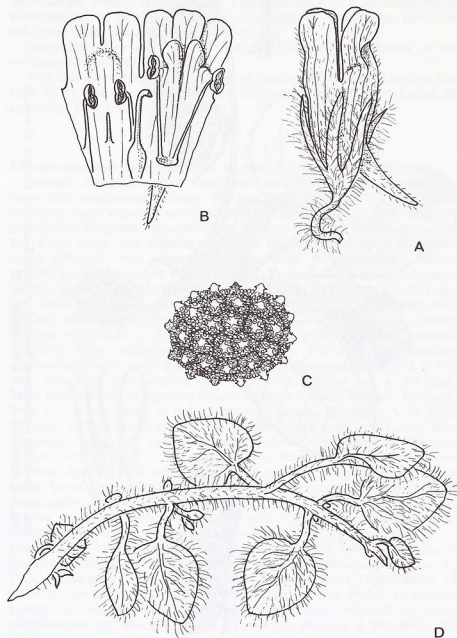


FIG. 2. *Kickxia chasmophytica* Wendelbo. A, calyx and corolla; B, corolla split open; C, seed; D, part of branch. A, B & D  $\times$  approx. 6; C  $\times$  approx. 60.



FIG. 3. *Onobrychis rechingerorum* Wendelbo. A, habit; B, calyx; C, standard; D, wing; E, keel. A  $\times$  approx. 1.4; B, C, D & E  $\times$  approx. 3.75.

the related species *D. lurorum* comes closest to *D. caespitosa* (Duby) Boiss. which occurs somewhat further to the east and north-east in the Bakhtiari mountains.

In addition to the differences already mentioned the new species has a more deeply divided calyx, shorter rosette leaves with a distinctly raised nervation (in the dried specimens), a much shorter corolla tube, and laxer tufts than other members of its subsection.

The epithet *lurorum* is taken from the Luris, the inhabitants of the province of Lorestan (Luristan).

With this new addition the number of species of the genus *Dionysia* has risen to 42 (see Wendelbo, 1976) of which no less than 25, including 22 endemics, have been found in Iran.

***Kickxia chasmophytica* Wendelbo, sp. nov. Fig. 2.**

Perennis, caespites parvos humifusos substrato appressos formans,  $\pm$  dense pilis inaequilongis obsita; pili longissimi usque ad 1.5 mm longi, breviores saepe capitulis parvis provisi. *Caules* usque ad 7 cm longi et probabiliter longiores, procumbentes, flexuosi, implexi. *Foliorum* lamina 2-3.5 mm longa, late elliptica usque late elliptico-ovata, apice rotundata usque subacuta, basi rotundata usque retusa vel subcordata, crassa; petiolus laminam aequans. *Flores* axillares. *Pedicelli* 3-4 mm longi, falcato-recurvi. *Calyx* 3-4 mm longus, fere usque ad basin in segmenta 0.5-0.7 mm lata lineari-lanceolata acuta fissus. *Corolla* flava extus brunnescenti-suffusa, labio inferiore brunnescenti-gibbuloso, c. 7.4 mm longa, calcare deflexo, recto tenui, c. 2 mm longo; labium inferius c. 3.2 mm longum, trilobum; lobus medianus longior c.  $1.3 \times 1.2$  mm, late elliptico-subquadrangularis, apice emarginatus; lobi laterales obliqui, c.  $1.2 \times 1.5$  mm, rotundati; pars centralis labii bigibbulosa; gibbae  $1.2 \times 0.8$  mm, basin lobi centralis attingentes; labium superius c. 3 mm longum, bilobum, lobis c. 1.6 mm longis et latis, apice emarginatis. *Filamenta* 4, in parte inferiore in latere interiore pilosa, bina inferiora c. 4 mm longa, bina superiora c. 2.5 mm longa; antherarum thecae divergentes, c. 0.8 mm longae; staminodium c. 1.3 mm longum, tenue. *Ovarium* c. 1.2 mm longum. *Stylus* c. 2.5 mm longus, apice recurvus. *Capsula* 2.5-2.7 mm longa, late oblongo-ellipsoidea, biloculares, pariete loculi unius verisimiliter disintegrante, alterius operculo laterali elliptico c. 2 mm longo dehiscente. *Semina* in utroque loculo plura, 0.5 mm longa, late ellipsoidea; testa minute papilloso-verruculosa et disperse tuberculata, brunnea.

Iran. Bandar-Abbas: Kuh-e Genou, top region, 2200-2300 m, crevices of limestone cliffs, 3 iv 1975, *Wendelbo & Foroughi* 15400 (holo. GB; iso. E, TARI); 2250 m, 4 v 1975, *Foroughi* 16084 (GB; E, TARI); 1900-2000 m, 12 iv 1976, *Foroughi* 19338 (GB; TARI). Khali-j-e Fars: Bushir to Bandar Lengeh, c. 16 km from Taheri on road to Jam, 600-650 m, loose conglomerate and limestone cliffs, 21 iii 1976, *Bokhari & Wendelbo* 253 (GB).

The new species is very characteristic with its creeping entangled stems forming low mats in crevices of rocks. It does not seem to be closely related to any other species known to the author.

**Onobrychis rechingerorum** Wendelbo, sp. nov. Fig. 3.

Herba annua dense griseo-pubescent; pubescentia e pilis brevibus et longis usque ad 2.5 mm attingentibus consistens. *Folia* plerumque e foliolo singulo consistentia, rarius 3-5-foliolata, foliolo terminale majore foliolisque lateralibus minutissimis; foliolum terminale sive unicum 22-35 × 17-25 mm, late elliptico-ovatum, apice rotundatum vel retuso-rotundatum, breviter mucronatum, canescens, nervorum principalium paribus circiter 4 brunnescenti-purpureis subtus quam supra densius pubescens; foliola lateralia si evoluta usque ad 6 mm longa, suborbiculata, breviter petiolulata; petiolus foliolum terminale aequans vel paulo brevior; stipulae 5-6 mm longae, lineari-subulatae, brunnescenti-purpureo-suffusae. *Pedunculi* 3-5, rhachide inflorescentiae inclusa usque ad 10 cm longi. *Racemus* usque ad 8-13-florus, florendi tempore densiusculus sed mox elongatus. *Bractae* c. 2 mm longae, scariosae, pubescentes. *Pedicelli* 1-2 mm longi. *Calyx* 7-8 mm longus, campanulatus, tubo c. 1.5 mm longo, segmentis lineari-subulatis, pilis longis rectis obsitis. *Corolla* ochroleuca vel fere alba, purpureo-violaceo-venosa, in parte apicali carinae brunnescenti-violascens; vexillum c. 8 mm longum, suborbiculare, emarginatum, secus medium carinatum, dorso parce hirsutum; alae c. 3.3 mm longae; carina c. 6.5 mm longa. *Legumen* biloculare bispermum, dense pilosum, setis inclusis usque ad 14 mm diametro, suborbiculare, applanatum; setae secus marginem in seriebus binis dispositae, serie utraque 20-spinosa, suboppositae, 3.5 mm longae, basi 0.5 mm latae, anguste triangulares, brunneo-purpurascens; discus foveolatus, 8-10-spinulosus. Iran. Bandar-Abbas: S side of Kuh-e Genou, 1000-1300 m, stony slope with outcrops of limestone rock, 5 iv 1975, *Wendelbo & Foroughi* 15538 (holo. GB; iso. E, TARI).

The new species belongs to the section *Afghanicae* Širjaev. It is undoubtedly rather closely related to *O. tavernierifolia* [Stocks ex] Boiss., but differs in the shape of the terminal leaflets which are broadly elliptic-ovate and not orbicular, the fruits are also less hairy along the margin and the disc is markedly spiny.

*Onobrychis rechingerorum* is named in honour of Mrs Wilhelmina and Professor Dr Karl Heinz Rechinger of Vienna.

## REFERENCES

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